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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/706,926	11/06/2000	Rajashri Joshi	N0069US	8587

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PATENT DEPARTMENT
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EXAMINER
LE, MIRANDA

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 12/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/706,926	Applicant(s) FRANK J. KO ZAK	
	Examiner Miranda Le	Art Unit 2177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

Application does not contain **Brief Summary of the Invention**: See MPEP § 608.01(d).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 5-7, 13-14, 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Agrawal et al. (US Patent No 5,647,058).

Agrawal anticipated independent claims 1, 13 by the following:

4. As per claim 1, Agrawal teaches "a method for representing cartographic data in a computer-based system... computing a plurality of wavelet and scaling coefficients corresponding to at least one function representing a geographic feature in a cartographic database" at col. 5, lines 6-26, col. 7, lines 38-56, col. 8, lines 19-33;

"storing the wavelet and scaling coefficients in a computer-usable database, the

coefficients being usable for representing the cartographic data in the computer-based system" at col. 5, lines 46-67.

5. As per claim 13, Agrawal teaches "a method of generating a computer-usable database that represents cartographic data using a plurality of wavelet and scaling coefficients...providing a predetermined database that represents the cartographic data using a plurality of data points specifying geographic locations" at col. 5, lines 6-26, col. 3, line 65 to col. 4, line 36;

"computing a plurality of wavelet and scaling coefficients from the data points" at col. 7, lines 38-56, col. 8, lines 19-33;

"storing the wavelet and scaling coefficients in the computer-usable database" at col. 5, lines 46-67.

6. As per claim 2, Agrawal teaches "the geographic feature is originally represented by a plurality of data points" at col. 3, line 65 to col. 4, line 36.

7. As per claim 3, Agrawal teaches "the data points are selected from the group consisting of coordinate pairs and a coordinate triples" at col. 2, lines 50-65.

8. As per claim 5, Agrawal teaches "the step of computing the wavelet coefficients and scaling coefficients includes applying a wavelet transform to a function defined by the data points representing the geographic feature" at col. 7, lines 11-35.

9. As per claim 6, Agrawal teaches "the step of computing the wavelet coefficients and scaling coefficients includes: computing the wavelet coefficients by performing a least-squares fit" at col. 8, lines 46-65.

10. As per claim 7, Agrawal teaches "the wavelet and scaling coefficients are computed using a semi-discrete orthonormal wavelet transform" at col. 7, lines 38-56.

11. As per claim 14, 23, Agrawal teaches "the data points are selected from the group consisting of coordinate pairs and coordinate triples" at col. 2, lines 50-65.

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

13. Claims 4, 8-12, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al. (US Patent No 5,647,058), as applied to claims 1-3, 5-7, 13-14, 23 above, in view of Meek et al. (US Patent No. 6,366,927).

14. As per claim 4, Agrawal does not teach "the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport". However, Meek teaches this limitation at col. 2, lines 30-65, col. 3, lines 1-20.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Meek to include "the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport" in order to provide the map display function, the geographic data set may include cartographic data, which allows the navigation application program to display maps illustrating the size, shape, position, and character of these various geographic features.

15. As per claim 8, Agrawal teaches "computing the function using the retrieved wavelet and scaling coefficients" at col. 7, lines 38-56, col. 8, lines 19-33;

Agrawal does not explicitly teach "a method of displaying on a computer output device a function representing a geographic feature...retrieving from a computer-usable database a plurality of wavelet and scaling coefficients associated with the geographic feature, the coefficients being derived from a plurality of data points specifying geographic locations according to a predetermined reference system". However, Meek teaches this limitation at col. 3, line 48 to col. 4, line 17, col. 6, line 60 to col. 7, line 20, col. 7, lines 21-35, col. 8, lines 30-59.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Meek to include

"retrieving... a plurality of wavelet and scaling coefficients associated with the geographic feature... the coefficients being derived from a plurality of data points specifying geographic locations according to a predetermined reference system" in order to provide an improved method for representing and storing geographic feature information that provides for highly accurate representation of geographic features.

Meek teaches "displaying the function on the computer output device" at col. 3, line 48 to col. 4, line 17, col. 6, line 60 to col. 7, line 20.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Meek to include "displaying the function on the computer output device" in order to provide features allowing the user to zoom a display in on or out of a particular geographic area to alternately display a larger geographic area or more detailed geographic information.

16. As per claim 9, Agrawal teaches "the data points are selected from the group consisting of coordinate pairs and a coordinate triples" at col. 2, lines 50-65.

17. As per claim 10, Meek teaches "the geographic feature is selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport" at col. 2, lines 30-65, col. 3, lines 1-20.

18. As per claim 11, Agrawal teaches "a processor configured to calculate a function using the wavelet and scaling coefficients, the function representing the geographic feature" at col. 7, lines 38-56, col. 8, lines 19-33.

Agrawal does not explicitly teach "a database storing a plurality of wavelet and scaling coefficients associated with the geographic feature, the wavelet and scaling coefficients being derived from a plurality of data points specifying geographic locations according to a predetermined reference system". However, Meek teaches this limitation at col. 6, line 60 to col. 7, line 35, col. 8, line 65 to col. 9, line 29.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Meek to include "a database storing a plurality of wavelet and scaling coefficients associated with the geographic feature, the wavelet and scaling coefficients being derived from a plurality of data points specifying geographic locations according to a predetermined reference system" in order to provide an improved method for representing and storing geographic feature information that provides for highly accurate representation of geographic features, and minimal storage requirements.

Meek teaches "a display device for displaying the function" at col. 3, line 48 to col. 4, line 17, col. 6, line 60 to col. 7, line 20.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Meek to include "a display device for displaying the function" in order to provide features allowing the user to zoom a display in on or out of a particular geographic area to alternately display a larger geographic area or more detailed geographic information.

19. As per claim 12, Agrawal teaches "the data points are selected from the group consisting of coordinate pairs and a coordinate triples" at col. 2, lines 50-65.

20. As per claim 15, Agrawal does not teach "the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track and airport". However, Meek teaches this limitation at col. 2, lines 30-65, col. 3, lines 1-20.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Meek to include "the geographic feature is the boundary of a feature selected from the group consisting of a road, waterway, building, park, lake, railroad track, and airport" in order to provide the map display function, the geographic data set may include cartographic data, which allows the navigation application program to display maps illustrating the size, shape, position, and character of these various geographic features.

21. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al. (US Patent No 5,647,058), as applied to claims 1-3, 5-7, 13-14, 23 above, in view of Takagi et al. (US Patent No. 6,107,961).

22. As per claim 16, Agrawal teaches "a processor configured to compute a plurality of wavelet and scaling coefficients from the data points" at col. 10, lines 14-21;

"a second computer-usable database, operatively coupled to the processor, for

storing the wavelet and scaling coefficients" at col. 3, line 65 to col. 4, line 36, col. 7, line 38-56.

Agrawal does not explicitly teach "a first computer-usable database storing the cartographic data represented using a plurality of data points specifying geographic locations". However, Takagi teaches this limitation at col. 2, lines 37-51.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Takagi to include "a first computer-usable database storing the cartographic data represented using a plurality of data points specifying geographic locations" in order for a client can easily display a plurality of image data at an image level while superimposing the data.

23. As per claim 17, Agrawal teaches "the data points are selected from the group consisting of coordinate triples and coordinate pairs" at col. 2, lines 50-65.

24. As per claim 18, Agrawal teaches "the wavelet coefficients and scaling coefficients are computed by applying a wavelet transform to a function defined by the data points representing a geographic feature" at col. 7, lines 38-56.

25. As per claim 19, Agrawal teaches "the wavelet coefficients are computed by performing a least-squares fit" at col. 8, lines 46-65.

26. Claims 20, 22, 24, 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al. (US Patent No 5,647,058), as applied to claims above, in view of Sigeti et al. (US Patent No. 6,208,997).

27. As per claim 20, Agrawal teaches "computing a first plurality of wavelet and scaling coefficients from a plurality of first data points included in a first cartographic database" at col. 7, lines 38-56, col. 8, lines 19-33;

"computing a second plurality of wavelet and scaling coefficients from a plurality of data points included in a second cartographic database" at col. 7, lines 38-56, col. 8, lines 19-33;

Agrawal does not explicitly teach "generating the database error metric based on a wavelet transform involving the first and second pluralities of wavelet coefficients". However, Sigeti teaches this limitation at col. 3, lines 33-61.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Sigeti to include "generating the database error metric based on a wavelet transform involving the first and second pluralities of wavelet coefficients" in order to optimize flexible view-dependent error metrics, and produce guaranteed error bounds.

28. As per claim 22, Sigeti teaches "selecting a wavelet scale; and restricting the error computation to the selected wavelet scale to generate a layer error metric" at col. 6, line 66 to col. 7, line 10.

29. As per claim 23, 27, Agrawal teaches "the data points are selected from the group consisting of coordinate pairs and coordinate triples" at col. 2, lines 50-65.

30. As per claim 24, Agrawal teaches "a first cartographic database for storing a first plurality of data points" at col. 7, lines 38-56, col. 8, lines 19-33;

"a second cartographic database for storing a second plurality of data points" at col. 7, lines 38-56, col. 8, lines 19-33;

Agrawal does not explicitly teach "a processor, operatively coupled to the first and second cartographic databases, configured to compute a first plurality of wavelet and scaling coefficients and a second plurality of wavelet and scaling coefficients, respectively, from the first and second pluralities of data points, the processor generating a database error metric based on the first and second pluralities of wavelet and scaling coefficients". However, Sigeti teaches this limitation at col. 3, lines 33-61.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Sigeti to include "a processor, operatively coupled to the first and second cartographic databases, configured to compute a first plurality of wavelet and scaling coefficients and a second plurality of wavelet and scaling coefficients, respectively, from the first and second pluralities of data points, the processor generating a database error metric based on the first and second pluralities of wavelet and scaling coefficients" in order to optimize flexible view-dependent error metrics, and produce guaranteed error bounds.

31. As per claim 26, Sigeti teaches "the processor is configured to restrict the error 2 computation to a selected wavelet scale to generate a layer error metric" at col. 6, line 66 to col. 7, line 10.

32. Claims 21, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Agrawal et al. (US Patent No 5,647,058), in view of Sigeti (US Patent No. 6,208,997), as applied to claims above, and further in view of Muthukrishnan et al. (US Patent No. 6,065,007).

33. As per claim 21, 25, Agrawal does not teach "the error metric is a total error metric based on a plurality of wavelet scales". However, Muthukkrishnan teaches this limitation at col. 3, lines 45-59.

Thus, it would have been obvious to one ordinarily skilled in the art at the time of the invention to combine the teachings of Agrawal with the teachings of Muthukrishnan to include "the error metric is a total error metric based on a plurality of wavelet scales" in order to allow a user to analyze the large data distribution utilizing a smaller and more manageable, in both memory space and time considerations, approximation of the large data distribution.

Conclusion

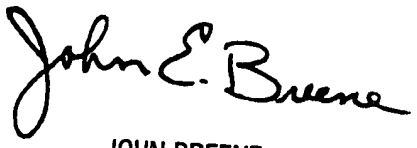
34. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Miranda Le whose telephone number is (703) 305-3203. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Breene, can be reached on (703) 305-9790. The fax number to this Art Unit is (703) 746-7238.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Miranda Le
Examiner-AU 2177
December 2, 2002



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